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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,210	07/27/2001	Yang-Lim Choi	Q61834	6848

7590 10/12/2005

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EXAMINER
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AN, SHAWN S

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 10/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/916,210	<b>Applicant(s)</b> CHOI ET AL.	
	<b>Examiner</b> Shawn S. An	<b>Art Unit</b> 2613	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 July 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9 and 10 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

*LN*

## DETAILED ACTION

### ***Response to Remarks***

1. Applicant's remarks as filed on 7/25/05 have been fully considered but they are not persuasive.

The Applicants present an argument of which Martens et al reference does not teach the probability between activity models and video frame provided from a given activity model dictionary using a transition matrix for the determined state.

However, after careful scrutiny of the cited prior art references, the Examiner must respectfully disagree, and maintain the grounds of rejection for the reasons that follow.

Upon further review, Martens et al does not particularly disclose determining an activity model, which maximizes the probability between activity models and video frame provided from a given activity model dictionary using a transition matrix for the determined state.

However, Martens et al does disclose determining an activity model (col. 2, lines 31-36), using a transition matrix for the determined state (Fig. 3), as the recognized activity (abs.), from an activity model dictionary (col. 3, lines 10-18; col. 4, lines 39-45; col. 11, lines 41-48; col. 13, lines 66-67; col. 14, lines 1-9).

Furthermore, Martens et al teaches that classification probability can enhance the motion estimation and modeling (col. 13, lines 59-67; col. 14, lines 1-12).

Moreover, Hu teaches refinement of motion vectors, and that an activity (Gibbs/Markov) model has been used to maximize the probability that the derived motion vector field represents the "true" physical motion (recognized activity) (col. 2, lines 33-38).

Therefore, it would clearly have been obvious to a person of ordinary skill in the relevant art employing an object activity modeling method as taught by Martens et al to incorporate the teachings as above as taught by Hu for determining an activity model, based on Hu's maximizing the probability between activity models and video frame provided from Marten's given activity model dictionary using the transition matrix for the

determined state as an efficient way to model an object activity (motion) by utilizing the probability that represents true motion.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martens et al (6,157,677) in view of Hu (5,748,247) as previously discussed in the last Office action as filed on 4/20/05.

***Allowable Subject Matter***

4. Claim 11 is objected to as being dependent upon a rejected base claim 1, but would be allowable: if claim 11 is rewritten in independent form including all of the limitations of the base claim 9 and any intervening claims

Dependent claim 11 recites the novel features, wherein the transition matrix is obtained by using an expectation maximization algorithm based on the observation symbol probability  $\{b_j(\cdot)\}$  corresponding to scene  $j$  in the training process.

Accordingly, if the amendments are made to the claims listed above, and if rejected claims are canceled, the application would be placed in condition for allowance.

***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within


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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to *Shawn S. An* whose telephone number is 571-272-7324.

7. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Please note the new fax number.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**SHAWN AN**  
**PRIMARY EXAMINER**

10/05/05